Papers

Customer metrics and organisational alignment for maximising customer equity

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Behram Hansotia
is currently working as an independent consultant, having previously co-founded and served as President and Chief Executive Officer of InfoWorks. His expertise lies in designing information-intensive marketing processes for customer acquisition, development and winback. Behram's post-doctoral experience spans academia, industry and management consulting, with the past several years devoted exclusively to strategic database marketing. Behram has been an adjunct professor in the graduate Integrated Marketing Communications programme at Northwestern University, has served as a member of the Editorial Board of the *Journal of Interactive Marketing* and currently serves on the International Editorial Board of this journal.

Abstract This paper discusses customer equity scorecards for tracking new and veteran customers' performance and recommends a marketing organisational structure where marketing is charged with maximising customer equity. It discusses the analytical underpinnings of the scorecards used to track the dynamics in the customer base and defines the roles and responsibilities of the marketing line and staff divisions, and how they are expected to interact and support each other. With such scorecards, marketing can be held accountable for customer cash flows and must, therefore, focus on activities that directly enhance these cash flows.

Dr Behram Hansotia
226 North St, South Haven, MI 49090, USA.

e-mail:
bhansotia@comcast.net

INTRODUCTION

During the last decade a new marketing model has been evolving, a model that views customers as assets and where the fundamental role of marketing is to manage these assets so as to maximise the lifetime value of customer generated cash flows or customer equity. Unlike brand management, this view of marketing directly links marketing activities with customer cash flows. These include customer acquisition, customer development and customer retention. These activities have previously been discussed at some length and how key decisions pertaining to resource allocations and customer investments should be made when the objective is maximisation of customer equity has been described.[1] It was suggested that customer equity might be viewed as the sum of 'new customer equity' and 'veteran customer equity' where the new customer equity may be defined as the cash flows generated by a new customer. This could be the cash flows associated with the initial product purchase or the cash flows associated with some initial customer tenure. The veteran customer equity was defined as the present value of cash flows starting with the second purchase, or the present value of cash flows after the initial customer tenure associated with a new customer.

Based on this decomposition of customer equity, this paper first discusses tracking key customer metrics, so management can evaluate its performance in improving customer equity. It presents a new customer equity scorecard and a veteran customer equity scorecard. These scorecards may be viewed as income (cash flow) statements for customer groups rather than for business divisions. They help companies monitor the financial health of their customer bases and also help identify opportunities and risks among different customer groups.

Just as architects like to design structures so that their form follows function, the author recommends a marketing organisational structure that focuses on managing these two components of customer equity. He recommends a combination of line and staff divisions and discusses the responsibilities of each and how they are expected to interact with each other. The paper concludes with a brief description of the challenges associated with acquiring and developing the human capital for this knowledge intensive model of marketing.

CUSTOMER METRICS

Managing customer equity implicitly requires companies to track key customer performance metrics to determine how well it is achieving its objective of increasing the total value of its customer base. The author recommends that companies develop customer value scorecards that track customers' performance over time.[2] Key elements that need to be tracked include:

— Customer counts: new versus veteran.
— Attrition rates by segment.
— Customer cash flow and its components for new and veteran customers by segment: revenue, acquisition cost, operating expense, add-on selling expenses and retention expenses.

New customer equity scorecard

As an example, a company selling contractual products that acquires customers using direct mail, direct response television (DRTV) and electronic media could track the following information on the new customers it had acquired every quarter, over the last 12 quarters. Each quarter represents a new cohort of customers added in that quarter. (A quarter has been chosen rather than a month, since this is how financial results are typically reported.) This enables the company to measure the effectiveness of its new customer acquisition efforts and the new customers' initial performance in the current quarter, the previous quarter and the same quarters one and two years ago. This historic trend will enable it to identify where things are improving, lagging or staying the same.

— Total number of new customers added
  • By media: mail, DRTV, e-media
— Average acquisition cost per customer
  • By media: mail, DRTV, e-media
— Average quarterly cash flow per new customer
  • Average quarterly revenue per new customer
  • Average quarterly operating expense per new customer
  • Average quarterly marketing expense per new customer
— Total quarterly cash flow from new customers
— Number of new customers lapsing
  Initial quarterly lapse rate
  • By acquisition media: mail, DRTV, e-media

For new customers in their first year with the company, tracking is recommended for each customer cohort's quarterly performance for the next three quarters, or for the initial four quarters. After the first year, the customer may be termed a veteran customer and the first year's information may be used to build models to predict future behaviours. The model scores may then be used to create veteran customer segments that are homogenous in revenues and attrition risk. Veteran customers' performance can then be tracked based on segment inflow and transition rates.

Veteran customer equity scorecard

Tracking veteran customers' performance is more complicated, particularly if the objective is to generate insights into risks and opportunities in the customer base. The author recommends focusing on customer-generated cash flow (and its components) and attrition rates as the two core performance metrics, having first segmented customers on annualised revenues and attrition risk, since there will be significant variation in these two metrics across customers. The size of the segments can then be tracked over time, along with the new customer inflows and segment transition rates. This approach will help identify deviations (positive and negative) from historic values in customer performance. The next section briefly describes how such a segmentation scheme may be developed. Of necessity, not all of the specifics of building the models that drive the segmentation scheme can be dealt with here, thus only the basic concepts are presented.

Segmenting veteran customers on performance

To group veteran customers into segments that are relatively homogeneous with respect to attrition risk, it is recommended that a hazard regression model for customers with tenure greater than one year is built. Though the proportional hazard regression model was developed by Cox over 30 years ago,[3] marketers started using hazard models only within the last decade — primarily to study the timing of events, such as purchases and attrition. (See, for example, Jain and Vilcassim,[4] Helsen and Schmittlein,[5] Bolton,[5] and Seetharaman and Chintagupta.[7])

The hazard model can be built assuming time is continuous (Cox, original formulation[8]) or discrete (see, for example, Allison[9] and Yamaguchi[10]). Several refinements have been developed over the years to handle additional complexities such as repeated spells, random effects and customer heterogeneity (see for example, Klein[11] and McGilChrist[12]).

In building this model, the study period could be the most recent four quarters and potential predictor variables could be generated using customer demographics, transaction history from earlier periods and recent customer contacts. The effect of customer contacts during the study period can also be incorporated/tested using the 'time-varying predictors' formulation of the hazard regression model. Once this model is built, it can be used to score customers on their attrition risk.

A similar approach may be used to segment customers into groups that are homogeneous with respect to revenues. An ordinary least squares (OLS) or a mixed regression model (see Littell *et al.*[13] and Verbeke and Molenberghs[14] for a discussion of the theory of linear mixed models with examples) may be developed to predict active customers' revenues for the most recent four quarters based on customer characteristics and transaction data from earlier periods. If there is no substantial variation in customers' quarterly revenues, OLS may be used to build a model to predict annual revenues; otherwise mixed regression could be deployed with

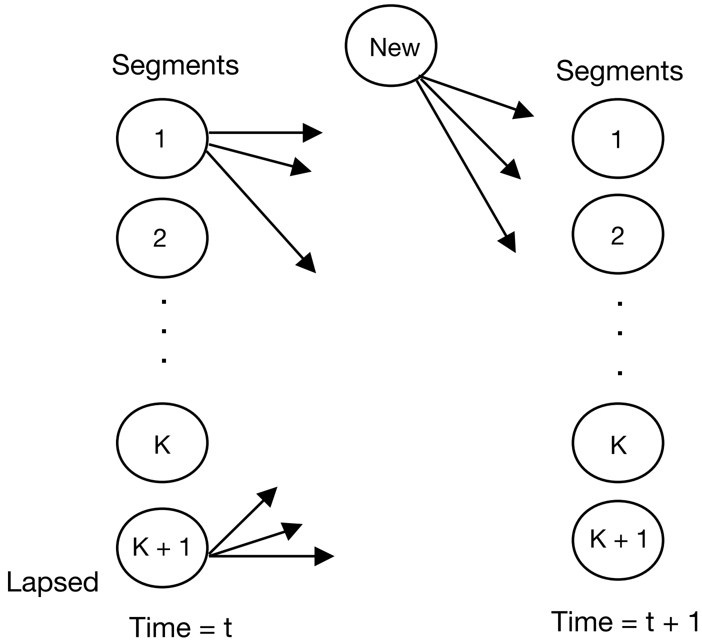

Figure 1: Veteran customer segment transitions and new customer inflows

repeated observations (up to four) per active customer to account for the effect of time and the correlation across observations on the same customer. Though the error structure of the two models may be correlated, since these models are being used primarily to sort and group customers rather than draw substantive inferences about their attrition and revenue behaviours, ignoring this correlation may not be that critical. (For interesting applications of where such jointly correlated error structures have been used, see, for example the paper by Thomas *et al.*[15] and the paper by Bucklin and Sismeiro.[16]) Once the regression model is built, it can be used to score customers on their predicted revenues.

A customer may now be scored with both models and customers may be grouped into clusters that are homogeneous with respect to both attrition risk and revenues. A variety of clustering algorithms are available, but for large data sets the K-Means clustering approach typically works quite well. Each cluster will now be relatively homogeneous with respect to the customers' risk and revenue profiles and the mean attrition rate and revenue of each segment may be estimated.

Using customer inflow and segment transition rates to track customer performance

Customers with tenure greater than four quarters can be now assigned to a segment. One quarter later, these customers can be scored again and reassigned to the segments. This establishes the customer flows from which customers' segment transition rates may be computed. Also, each quarter a new cohort of customers achieves tenure of four quarters and can be scored and assigned to different segments. This establishes the new customer cohort's inflow rates into the segments. These flows are shown in Figure 1.

The segments may be viewed as states that generate a given level of cash flow, with the states maximally differentiated on the magnitude of cash flows and attrition rates. Also, assigning lapsed customers to a state, each quarter, enables each segment's attrition rate to be tracked over time. As each quarter elapses, a new set of segment transition rates and new customer segment inflow rates are computed. These rates can be tracked over time and significant changes flagged. As a minimum, the author recommends tracking the following metrics, for each segment, for the last eight to 12 quarters:

— Customers' segment transition rates (if, say, there are six segments, then for each segment there will be six transition rates)
— Segment attrition rate
— New customer (tenure = four quarters) inflow rate
— Number of veteran customers in segment, at start of quarter
— Percentage of veteran customers
— Average revenue per customer
— Incremental revenues per customer through add-on sales
— Marketing cost per customer for generating add-on sales
— Marketing retention cost per customer
— Total marketing cost per customer
— Incremental revenues as a percentage of marketing cost for generating add-on sales
— Revenue as a percentage of total marketing cost
— Operating cost per customer
— Total (operating + marketing) cost per customer
— Cash flow per customer
— Cash flow as a percentage of total cost.

Tracking the performance of the customer base by segment provides unique insights into the dynamics of the customer base; these are almost impossible to glean if only total revenues and costs are tracked. For instance, a company may be losing its best customers at a high rate but may have been able to acquire new customers at a higher rate than before; this would substantially mask the attrition problem in the short run. Also, if the new customer inflow rate into the best performing segments were to decline substantially, the effect on total customer cash flow would not be apparent immediately; by the time its impact was discerned, the damage would have already been done.

MARKETING ORGANISATIONAL STRUCTURE

Organising the marketing function to manage customers based on their equity requires a clear focus on customer acquisition and veteran customer management (add-on selling and retention). These two functions are clearly responsible for driving company revenues and cash flows. As discussed above, to execute these functions well requires significant competence in:

— Tracking customer performance through metrics related to customer equity.
— Designing, implementing and institutionalising processes that incorporate analytics and modelling for targeting customers/prospects and developing customer insights.
— Developing effective communications based on prospect/customer insights.
— Designing and developing new products and keeping existing products competitive with respect to pricing and benefits.

It is therefore recommended that a the marketing organisation charged with enhancing customer equity be set up with two line divisions and three staff divisions, as follows:

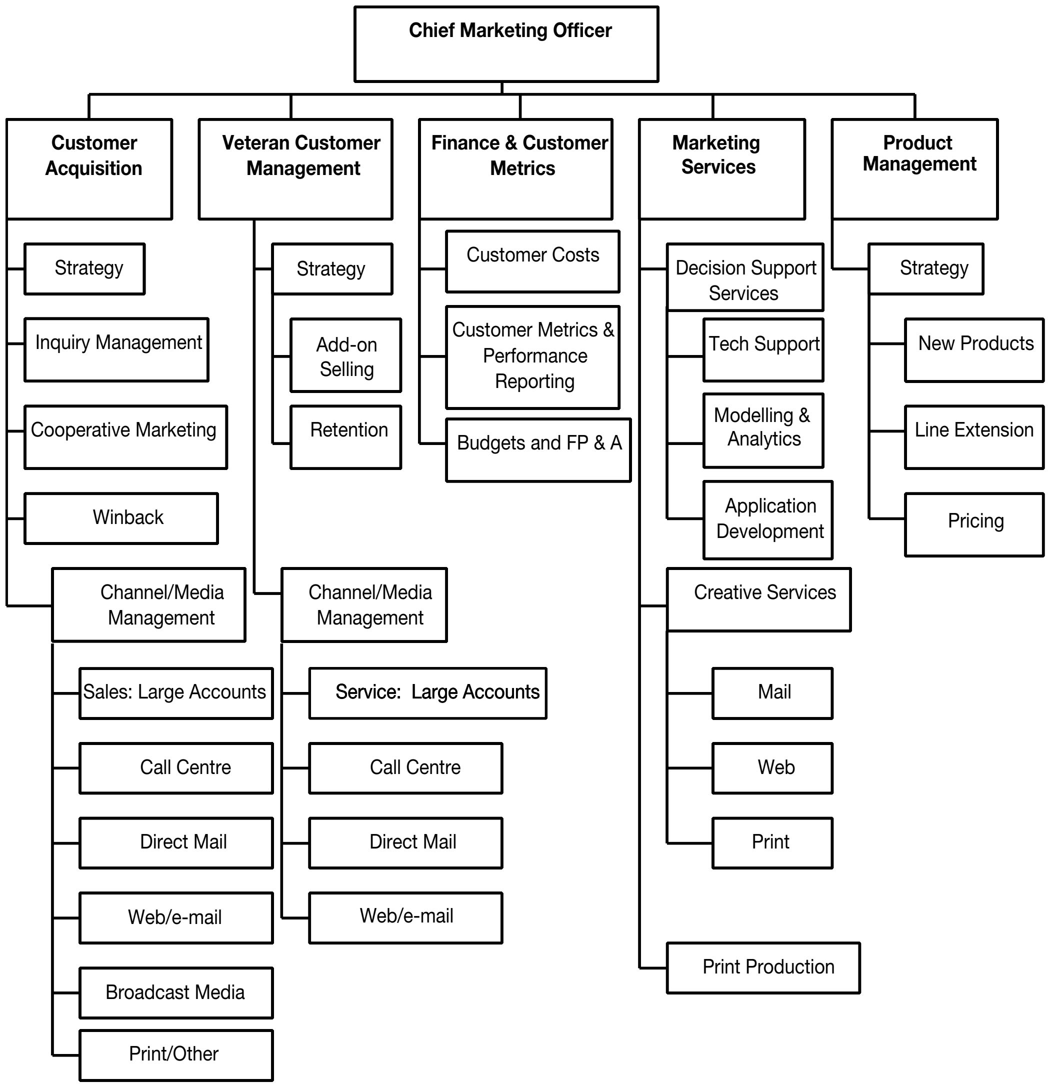

Figure 2: Marketing organisational chart for managing customer equity

— Line divisions: customer acquisition, veteran customer management
— Staff divisions: finance and customer metrics, marketing services, product management.

A possible organisational chart for this type of organisation is shown in Figure 2. Each of these divisions is discussed below.

Customer acquisition

This division must intimately understand its key audiences:

— Prospects
— Inquirers
— Lapsed customers
— New customers.

Prospects are potential customers who have not contacted the company (see Hansotia and Wang[17] for a discussion of decision rules for customer acquisition strategies). A company whose products appeal to smaller niche markets may find it worthwhile to develop a prospect database and processes and tools to systematically target prospects based on expected value decision rules that enhance customer equity.

Many companies also practice cooperative marketing where they market to the customers of companies with whom they have a strategic alliance. GE Capital, for instance, bought the Signature Group, a company well known for building a substantial business by marketing its insurance and consumer club products to the credit card holders of many large banks. This cooperative model can work in at least two ways; a company may market its own products to its partner's customers or market their partner's products to their own customers.

Inquirers are prospects that have declared themselves interested in the company's products and services and are in the information-gathering mode prior to making the purchase decision (see Hansotia[18] for a discussion of strategies for targeting inquirers). Companies must develop systematic processes to convert inquirers into customers. Again, inquirer data can be leveraged to develop an inquirer contact strategy consistent with enhancing customer equity.

Lapsed customers often can be reinstated, and companies should selectively target lapsed customers (see Thomas *et al.*[19] for an excellent discussion on winback strategies).

As soon as a new customer is acquired, the focus should turn to creating a great new customer experience that reinforces the brand promises and reduces cognitive dissonance. It is at this time that new customers who have been lured away from other companies can be quite vulnerable, if that company has a sophisticated winback strategy. It is important, therefore, that the acquiring company has excellent intelligence into its competitors' winback strategies if it wants to keep its new customer lapse rate as small as possible. Typically it is at a disadvantage here, since the competition probably has more information on these newly acquired customers than the acquiring company.

Among the key decisions this division needs to make are:

- What products should it lead with for different prospect segments?
- What longitudinal contact strategy should it deploy against each prospect segment in its effort to convert prospects into customers?
- What contact strategy should it employ to convert a new customer into a veteran customer?
- What strategy should it use to save a customer who decides to sever a contractual relationship or to save a customer who has potentially lapsed?

A contact strategy is, by definition, longitudinal, and lays out a plan that addresses the nature, content, timing, frequency, media and spend levels of contacts. The contacts could be a series of planned outbound communications by the company, or opportunities to communicate with the customer when he or she initiates the communication. These decisions are driven by analyses and models based on customer histories guided by the principles of marketing to differences and marketing to expectations. Marketing to differences attempts to make communications and offers as relevant as possible to individual prospect's and customer's needs and preferences. Marketing to expectations guides decision making on the basis of expected financial returns on marketing investments. Also, campaign planning and execution software and customer relationship management (CRM) execution technology are critical tools in executing these strategies.

How long should a new customer be deemed a new customer? The author believes there is no definitive answer to this question since it depends on the dynamics of the underlying business. For a company that sells tangible products, a customer could be considered new until he or she buys again, or if sufficient time has not elapsed since the first purchase to infer that the customer is probably inactive or has lapsed. A hazard regression model that predicts the likelihood of a customer ordering at time *t*, given he or she has not ordered since the first order, can help with this determination. For a contractual product, a customer may be considered new up to the time of the first renewal, or up to some point in time after the attrition probability has reached a given threshold value. This point could be estimated by calculating customers' hazard functions. Most hazard functions for contractual products are either decreasing functions or increasing and then decreasing functions of time. Once a customer has purchased again, or has survived the initial new customer spell, responsibility for the new customer is passed over to the veteran customer management division.

The customer acquisition division is charged with developing the strategies for enhancing the equity of the customer base through new customer acquisition and developing the processes and tools for executing these strategies against key prospect (including inquirers and lapsed customers) audiences. The key task of senior management is to allocate resources across different media, so as to maximise the growth in customer equity. At the end of the day, it is charged with ensuring that the total customer equity created through the customer acquisition effort is larger than the marketing cost incurred in creating this equity. The three staff divisions — finance and customer metrics, marketing services and product management — all provide vital services and critical expertise to help the customer acquisition division to meet its objectives. In fact, the success of this division — and that of its sister division, veteran customer management — is intimately linked to the core competence of these three staff divisions.

Veteran customer management

A customer who survives the new customer spell (the time period before he or she is designated as a veteran customer) becomes a veteran customer and the responsibility of managing this customer is passed on to the veteran customer management division.

The challenge for this division is to understand the customer intimately so it can enhance the scope of its relationship with the customer and, at the same time, reduce the likelihood of attrition. Each interaction with the customer provides an opportunity to deepen the relationship, collect meaningful information and offer relevant products and services that make life simpler and reinforces the reasons the customer selected the company to do business with in the first place. The key objective here is to increase the magnitude and duration of customer-generated cash flows, hopefully at a higher rate than was anticipated at the time the customer was first acquired.

The strategic decisions that need to be made here are similar to those for new customers, and the decision tools are again, very similar. The key difference here, however, is the amount of information that is available. As the customer relationship matures and more customer transactions and interactions occur, the greater is the amount of data available on each customer. Converting this data into information and customer insights that can help drive marketing decisions and contact strategies is a major challenge of this division. Marketing to differences and marketing to expectations are again the key approaches in designing processes for add-on selling and customer retention. Marketing investments are again evaluated with a capital budgeting lens; so only those investments that are expected to generate rates of return in excess of the firm's cost of capital are pursued. Since a key goal is continuous enhancement of customer equity, considerable effort needs to be placed on understanding customers and designing and testing value propositions and contact strategies to identify those that can make a material difference. Again, the three staff divisions play a critical role in the success of this division.

Since customer performance metrics are tracked separately for new and veteran customers' the evaluations of the line divisions should be closely tied to goals based on customers' key performance indicators.

Finance and customer metrics

Since under this approach marketing is a line function responsible for driving revenues and cash flows, it is extremely important that a strong finance division be an integral part of this organisation. Besides helping with budgets and financial planning, this division has the following responsibilities:

— Using activity-based costing to estimate customer level costs that are key inputs into the customer equity calculations.
— Maintaining and distributing the customer value scorecards.
— Interfacing with corporate finance.
— Assisting with capital investment decisions, particularly those related to technology that facilitates the execution of customer management activities.
— Providing the Chief Marketing Officer with reports that identify the contribution of each line division in enhancing customer equity.

Marketing services

The author recommends two distinct departments in this division:

— Decision support services (DSS)
— Creative services.

The key role of the marketing services division is to support the two line divisions and to help them achieve their goals. The DSS department's main responsibilities are to work closely with the leadership of the customer acquisition and the veteran customer management divisions in the development of their marketing strategies and processes and the tools to support them. These include tools that create customer insights (segmentation and profiling), targeting tools that help identify key audiences and decision rules for optimising marketing spend. It works closely with the finance and customer metrics division in developing the decision rules, using appropriate costs and margins. It also works closely with the channel/media management departments of both line divisions to help them design and analyse results of various tests to identify new and better ways of communicating with customers and serving them. The division also works with the product management division helping it to design studies and analyse data collected in new product, product extension and pricing tests.

The modelling and analytics group within DSS provides the consultants that interact with the other divisions. This group builds the database-driven models, helps with testing and analysis as well as with ongoing market research studies that provide customer insights about attitudes, preferences and satisfaction. The technical support group maintains the marketing database and creates the customer and prospect lists for outbound communications. Finally, the applications development group helps design and prototype campaign reports that monitor the performance of marketing campaigns and the customer value scorecards that monitor the overall health of the customer base. Once the campaign reports are finalised, a corporate systems division maintains and produces them on an agreed schedule. Likewise, once the customer value scorecard prototypes are finalised, they are maintained and produced by the finance and customer metrics division.

If the company does not have a direct marketing agency, an internal creative services group is needed. This group develops the communications based on the customer insights obtained through the segmentation and the market research work done by the DSS group.

The print production group works with print shops and manages the logistics of producing the mailings and getting them to customers in a timely fashion.

Product management

The key responsibility of the product management group is to develop products that balance the margin requirements of the company against the value they provide to the customer. Identifying the bundle of benefits and product prices that will create the largest long term profits for the company is the critical challenge for this division. To do its job well, this division must intimately understand its market and the differences in expectations, usage style and needs of different market segments. This is a dynamic process, since new products, competitors and disruptive technologies continuously appear in the marketplace.

This division develops and maintains the intelligence on competing products and technologies and is in charge of developing and implementing the product strategy. It needs to understand the core competence of the company with respect to key technologies critical to the company's mission so that it can help develop differentiated products that provide the company a unique advantage. The pricing decisions are among the most critical this division makes and need to be tailored not only to market segments but also to the customer's life cycle, starting with the introductory trial price, to the repeat purchase price and even the 'save-the-customer' and 'winback' price. The DSS group works closely with this division in helping it execute in-market tests using such techniques as experimental design and response surface modeling. Web- and e-mail-based rapid testing allows the cycle time for pricing decisions to be reduced significantly.

HUMAN CAPITAL

The biggest challenge to organising a company to manage customer equity is having the right knowledge workers on board. At the present time, this mode of operating a company is still in its infancy and requires a significant change in the mind set, culture and core competencies of most organisations. Though senior executives of some companies have bought into these concepts, implementing a customer equity management approach within an organisation continues to prove to be significantly difficult.

Even if senior management is totally committed to this new paradigm, the task of reconfiguring a company from its current way of doing business to this new model is a long and tortuous one. Most companies will need new systems infrastructure, marketing and customer service processes, analytical tools, measurement, reporting and accounting systems and, most importantly, knowledge workers with very different skills, educational backgrounds and experience. Potentially, this could be the largest change management effort under taken by any company. Yet changes are occurring, albeit in small steps with lots of experimentation. Company-wide education is the key, and the CEO and the entire senior management team must lead this effort.

A change management initiative of this magnitude requires a long-term strategic plan with measurable achievement goals for each year. Each year, significant investments will need to be made in systems infrastructure, education and in hiring the right knowledge workers. Almost all marketing departments will probably need to significantly enhance their analytic skills and hire more specialists to develop the marketing strategies, processes and the analytic tools that drive them. Also, all departments will be impacted when the company is totally focused on managing and enhancing customer equity. This means that the company must re-invent itself while at the same time continuing to meet Wall Street's earnings and revenue growth expectations. No wonder change is slow in coming.

With the continuing growth in computing power and the dramatic reduction in the price of data storage, however, the imperatives of leveraging customer data to manage customer equity will continue to grow. As successes occur, the pressure to adopt this information-intensive model of Marketing will only grow. The author believes that this new model can deliver a significant strategic advantage to a company. Since it is difficult to implement and requires a long-term commitment to master the necessary skills and competencies, it cannot be easily copied. Also, those companies that make the decision to move to this approach and stay committed to it will develop the first mover advantage, a gap that will be difficult to close in the future. The author believes that the next decade will see substantial growth in the number of companies vigorously pursuing the challenge of managing and growing customers' equity.

SUMMARY

This paper has discussed how the customer metrics companies must track using new and veteran customer data to manage and grow the total equity of their customer base successfully and has proposed an activity- or process-based marketing organisational structure for executing this strategy.

Although the marketing department undeniably is impacted the most when a firm adopts a customer equity management strategy, its impact can conceivably ripple through an entire organisation. For instance: the customer service division can no longer afford to operate on a 'first come, first served' basis; the product design group would have to better understand the needs of the most valuable customers, the manufacturing division must be ready to expedite the production and delivery of the products requested by the high value customers, corporate accounting would need to develop methods for recognising customers as assets on the company's balance sheet, even if this information is only used internally (since it is not required to do so under current Securities and Exchange Commission reporting requirements). In the future, the investment community may expect companies to report on customer metrics of the type discussed in this article and the CEO's letter to investors will need to outline the strategies the firm plans to implement to develop its customer base.

For continuous enhancement of customer equity, it will be critical for firms to become learning organisations where they continue to focus on sharpening their competencies in a host of areas; from designing and executing memorable customer experiences, to developing customer insights, to superior targeting of prospects and customers, to designing relevant and effective communications. The leaders will recognise the direct connection between the skills, knowledge and attitude of their employees and the long-term financial success of their organisations. Functions that contribute to the enhancement of customer value will be considered too critical to outsource and firms will play an active role in designing and managing those functions if they are to be successful in this highly competitive world.

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